

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 April 2005 (28.04.2005)

PCT

(10) International Publication Number
WO 2005/038002 A2

- (51) International Patent Classification⁷: C12N
- (21) International Application Number: PCT/US2004/034089
- (22) International Filing Date: 13 October 2004 (13.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/511,532 14 October 2003 (14.10.2003) US
- (71) Applicant (*for all designated States except US*): **THE SCRIPPS RESEARCH INSTITUTE** [US/US]; 10550 North Torrey Pines Road, La Jolla, CA 92037 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **ALFONTA, Lital** [IL/US]; 7665 Palmilla Drive, Apt. 5416, San Diego, CA 92122 (US). **SCHULTZ, Peter, G.** [US/US]; 1650 La Jolla Rancho Road, La Jolla, CA 92037 (US). **ZHANG, Zhiwen** [CN/US]; 12751 Via Terceto, San Diego, CA 92130 (US).
- (74) Agents: **QUINE, Jonathan, Alan et al.**; Quine Intellectual Property Law Group, P.C., P.O. Box 458, Alameda, CA 94501 (US).
- (84) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: SITE-SPECIFIC INCORPORATION OF REDOX ACTIVE AMINO ACIDS INTO PROTEINS

(57) Abstract: Compositions and methods of producing components of protein biosynthetic machinery that include orthogonal tRNAs, orthogonal aminoacyl-tRNA synthetases, and orthogonal pairs of tRNAs/synthetases, which incorporate redox active amino acids into proteins are provided. Methods for identifying these orthogonal pairs are also provided along with methods of producing proteins with redox active amino acids using these orthogonal pairs.

WO 2005/038002 A2